Headquarters U.S. Air Force

Integrity - Service - Excellence

Environmental Resource Transformation

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Outline

- ***Transformation Goals***
- **Resource Base Operational Risk**
- **Resource Capabilities Model**
- **Resource Base Financial Risk**
- **Actions to Date/to Meet Goals**

Summary of Transformation Goals

- Sustain environmental resources to operational requirement levels
- Reduce and/or manage operational and financial risk while preserving resource capability
- Execute programs in cost effective manner

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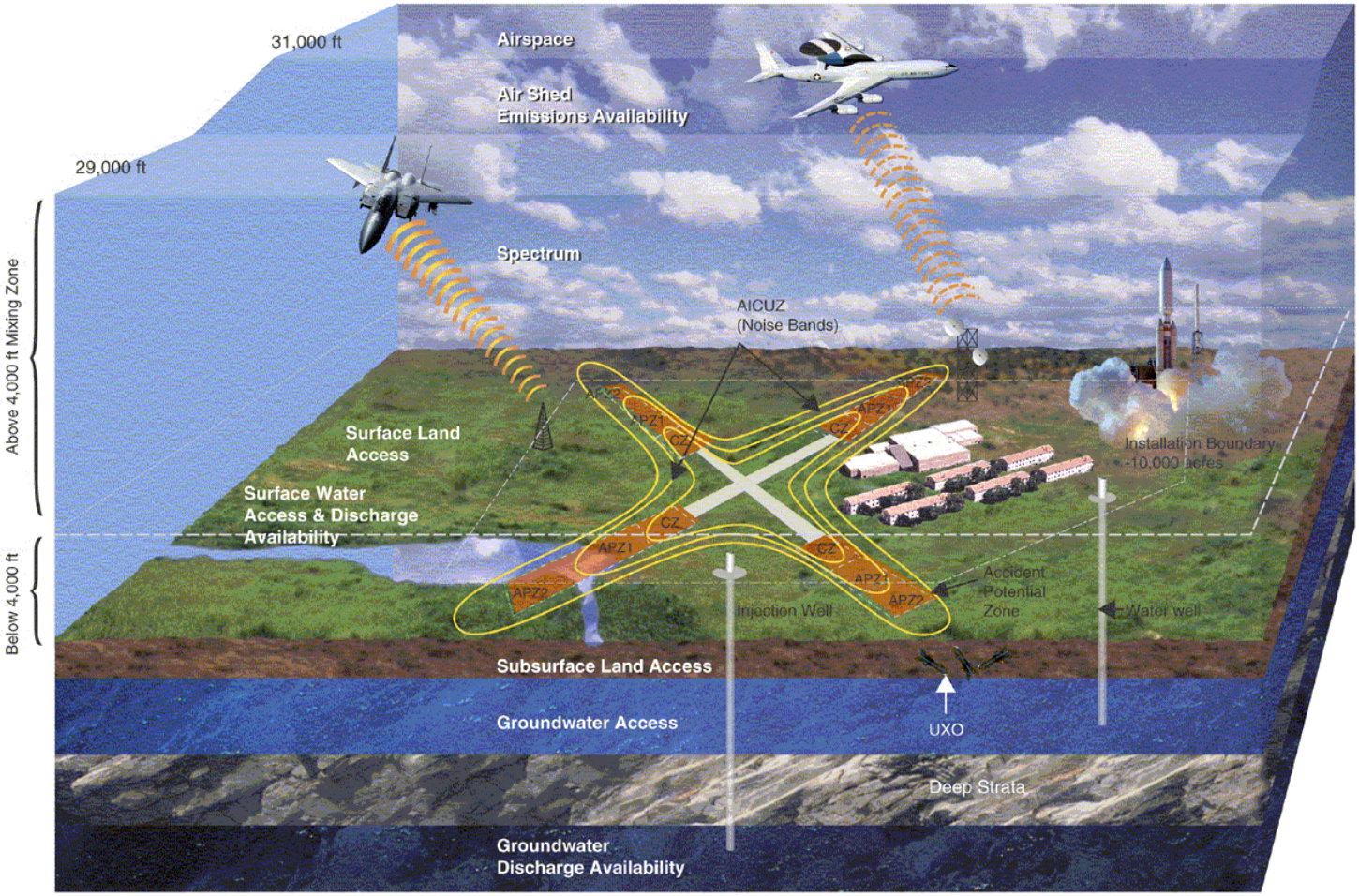
The Resource Base

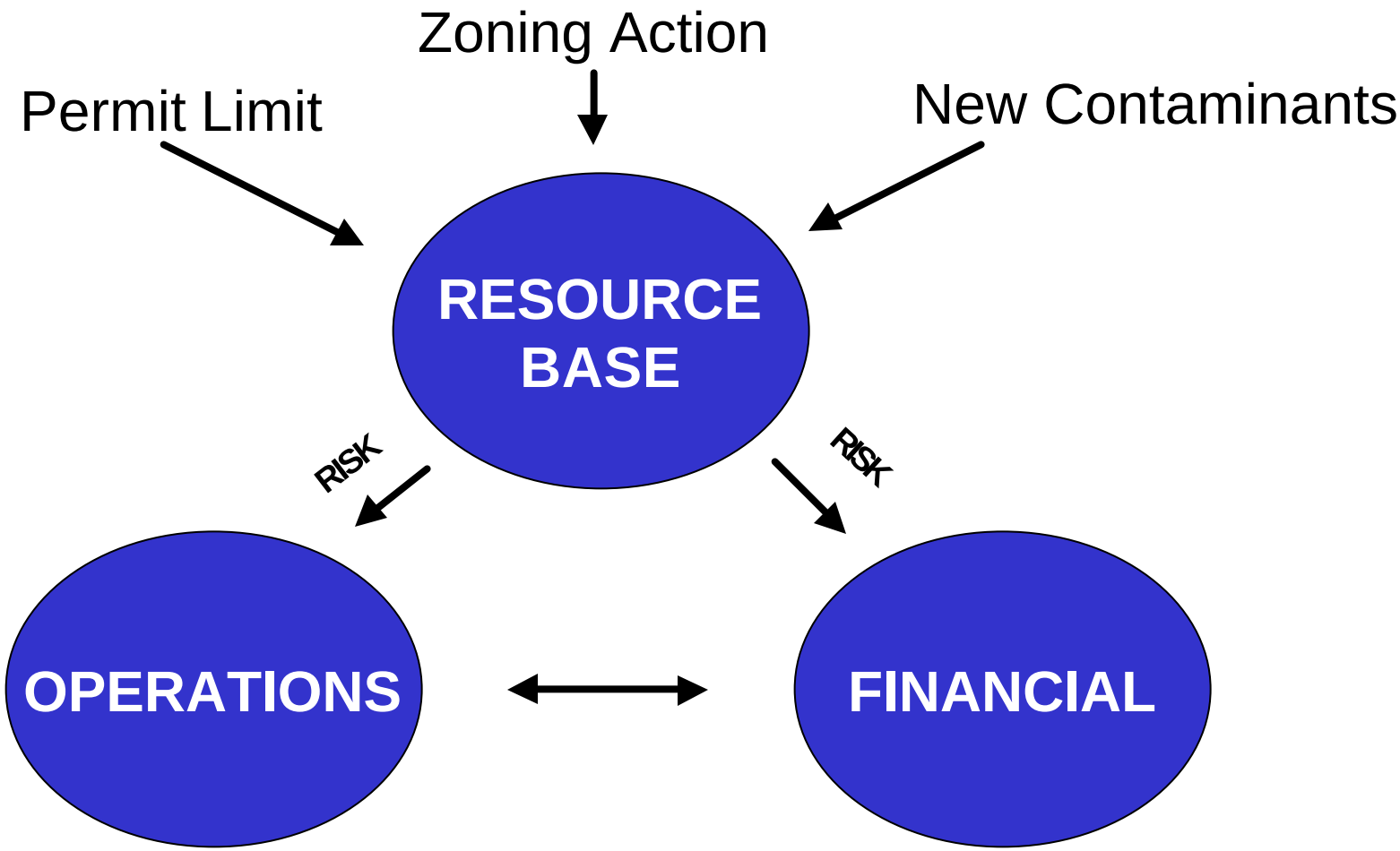


Resource Market Competition

- Commercial Communications
- Commercial Aviation
- Protected Habitat
- Commercial & Residential Development
- Noise Ordinances
- Population Growth
- Statutory Allocations/ Limitations

Resource Risk

Competing Needs



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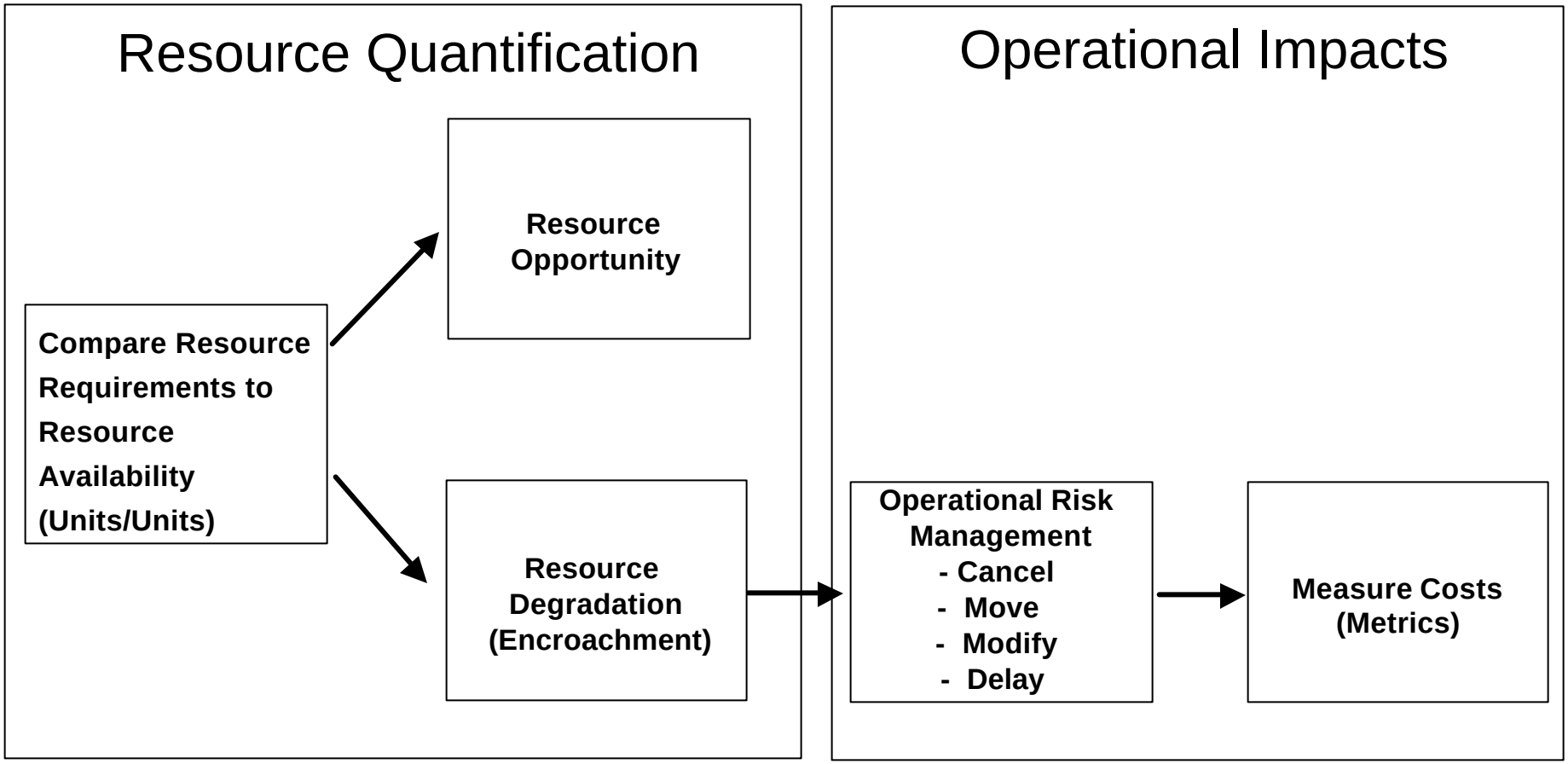
Resource Base Operational Risk

- **Encroachment: Denial or degradation of a resource that can cause operational risk or impairment**
- **GAO Report: Encroachment exists, but not quantified**
- **Resource Capabilities Model (RCM): created to quantify resource capability and support environmental resource management to meet operational needs**

Resource Base Operational Risk



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RCM: Capability vs. Requirements Comparison

Resource Category	Requirements		Capacity		Resource Readiness Rating	Competing Needs
	Operational Requirements	Resource Requirements	Resource Availability (currently available)	Operational Capability (currently provided)	RO 1-3 RR RD 1-3	
Airspace						
Air Shed Emissions Availability						
Surface Land Access						
Subsurface Land Access						
Sea Space						
Surface Water Access (Supply)						
Surface Water Discharge Availability						
Groundwater Access (Supply)						
Groundwater Discharge Availability						
Spectrum						

Resource Readiness Ratings*

Relationship to existing readiness ratings

Opportunity

Adequate

Degraded

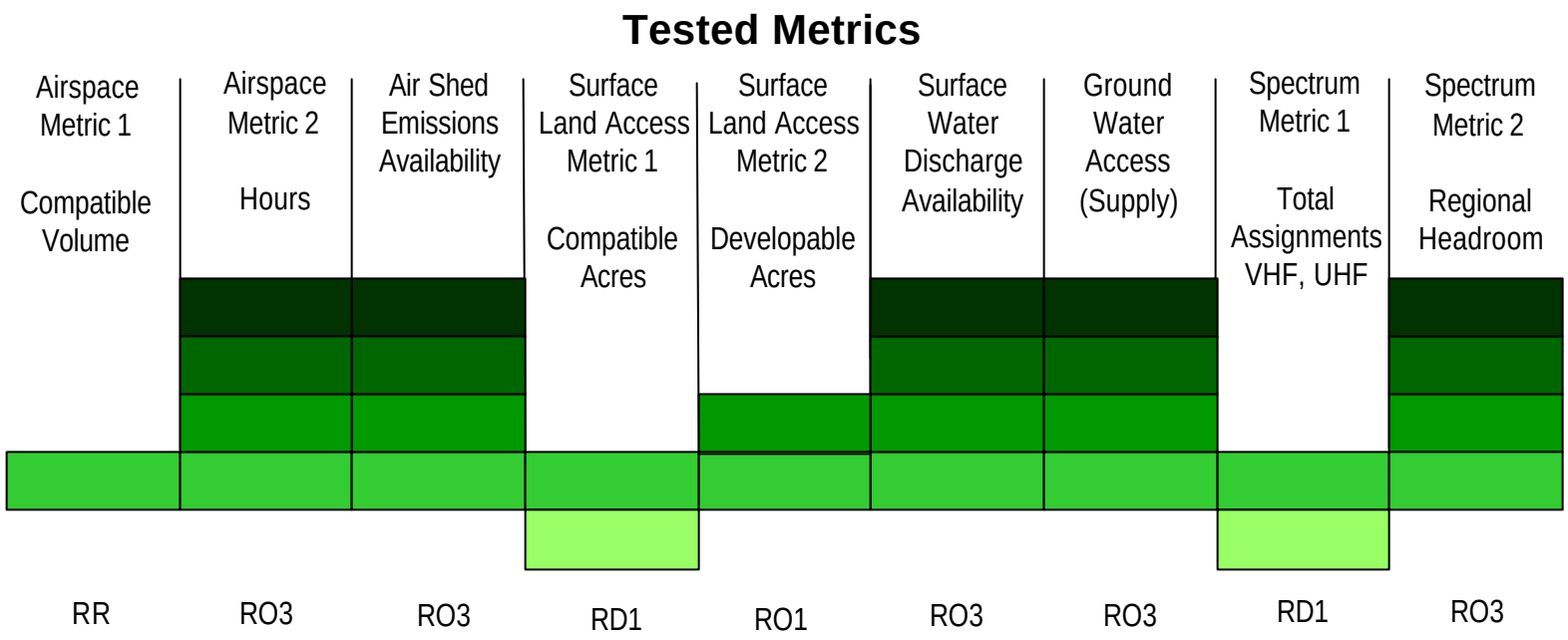
	DESCRIPTIVE RATING	RATING CODE	SORTS Relationship
> 140%		RO3	C1
121 – 140%		RO2	
111 – 120%		RO1	
110 – 90%		RR	
89 – 80%		RD1	C2
79 – 60%		RD2	C3
< 60%		RD3	C4

SORTS – Status of Resources and Training System

RO = Resource Opportunity
RD = Resource Degradation

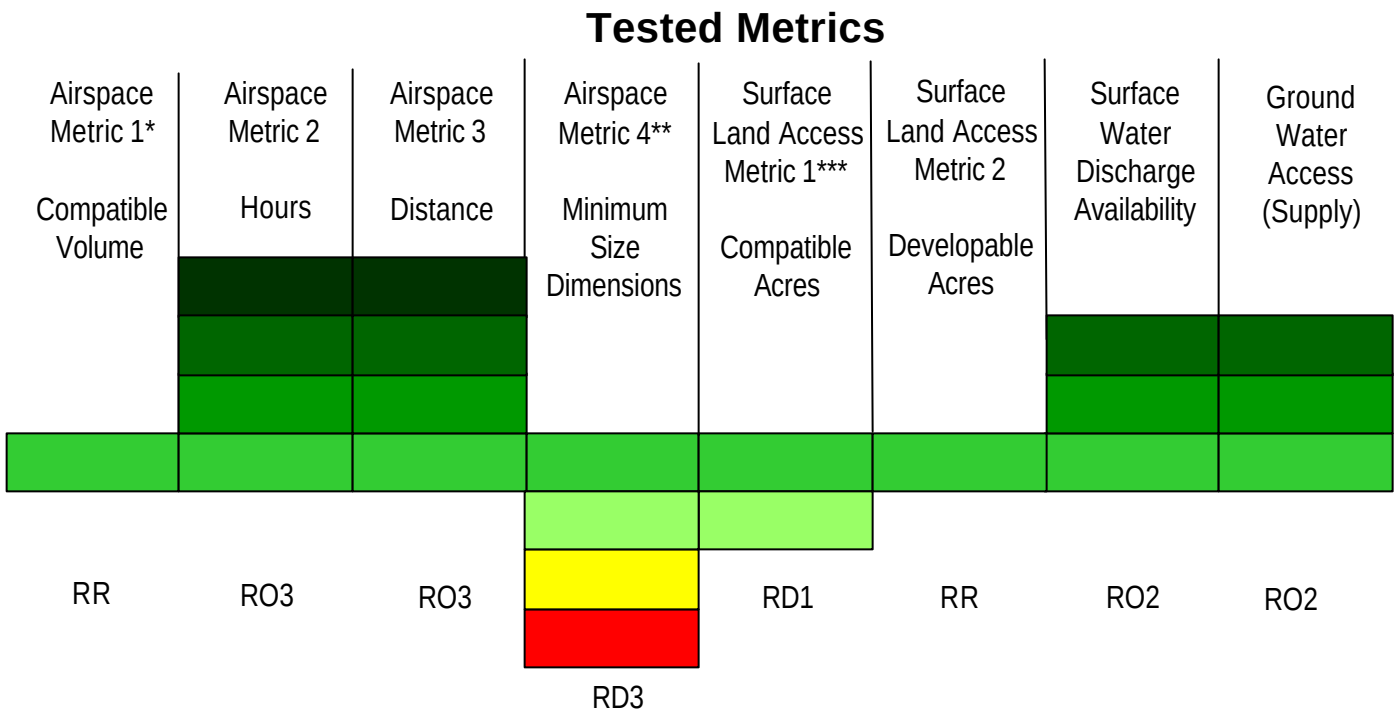
* Percentages results from comparison of resource availability to resource requirements, using 100% as the baseline for breakpoints.

Resource Readiness Ratings for Pilot Test Installation



- **Installation has significant resource opportunity**
- **Approximately 9.9% airspace encroachment in the aerodrome using Metric #1**
- **Approximately 11-15% off-base surface land encroachment using Metric #1**
- **Resource Deficiency for Spectrum Metric 1 is due to NTIA denial of four requests for frequency assignments, not encroachment**

Resource Readiness Ratings for Pilot Test Range



- Range has some resource opportunity

***Approximately 1.4% airspace encroachment using Metric #1 at range**

****There is no validated method in AF to size airspace for Metric 4. Required airspace dimensions generated by 20 FW staff for Basic Surface Attack (pilot test purposes)**

*****Approximately 12.1% off-range surface land encroachment using Metric #1**

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Resource Base Financial Risk

- Environmental resources aligned with regulatory <u>not</u> operational requirements.
- When resources required by operations exceed resources sustained to regulatory levels – encroachment/cost

Therefore:

- Managing financial risk may require investment beyond regulatory requirements
- Informed financial risk management requires understanding the complete environmental resource cost (including energy resources)

Strategy Consideration: Executive Order 13123

Executive Order 13123

Greening the Government Through Efficient Energy Management

- **Reduce facility energy consumption 35 percent by 2010 compared to a 1985 baseline (equates to 47.1% using 1975 baseline where we started)**
- **Reduce greenhouse gas emissions attributed to facility energy use by 30 percent by 2010 compared to such emissions levels in 1990**
- **Develop sustainable design principles**
- **Use renewable energy where practical**

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Renewable Energy

- **AF leads Federal Government in purchase of green energy**
  - **124 GWh/yr (enough to power 4700 MFH units)**
  - **Amount will double in two years**
- **AF leading a DoD Renewable Energy Assessment**
  - **Identify installations with best potential (wind, geothermal, solar)**
  - **Identify purchasing strategies to reduce renewable and conventional electricity costs**

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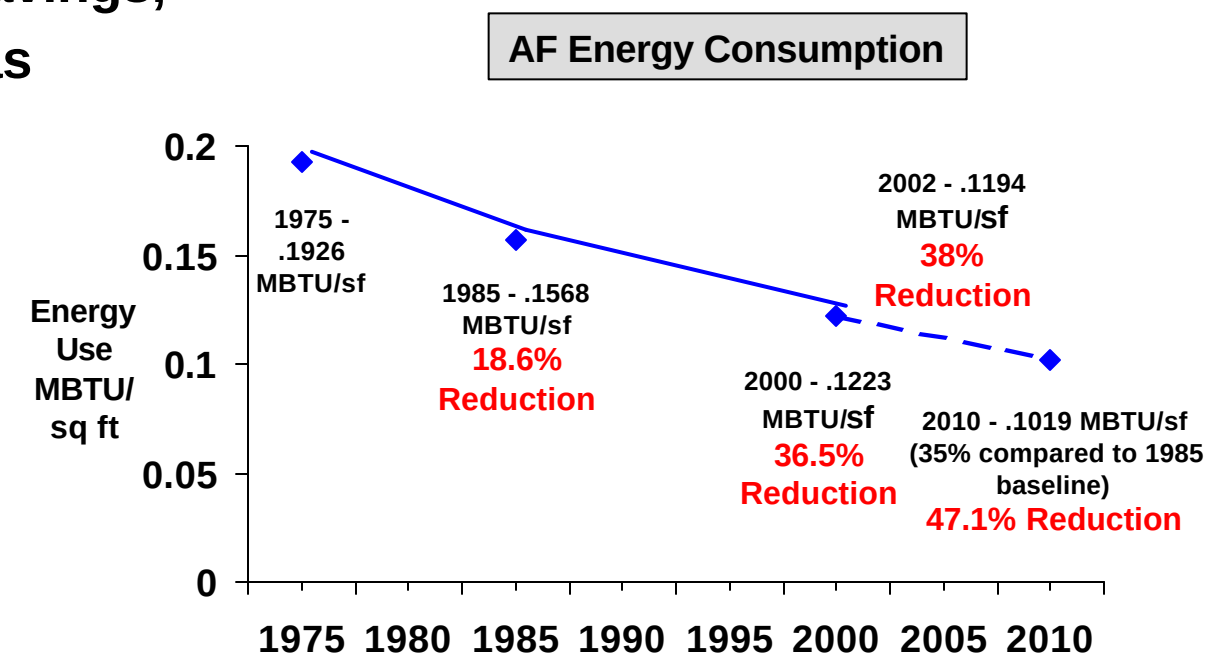
Progress

- Between FY1975 and FY2002 the AF reduced its energy consumption per square foot by 38.0%
- Greenhouse Gas Emissions Reduction
  - Through energy savings, FY02 reduction was ~ 30% based on 1990 baseline
  - We're ahead of schedule to meet a 30% reduction by 2010



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The Way Ahead

- **Meeting EO 13123 could require over $1B in additional investment**
  - **Energy Conservation Investment Program (ECIP) is supplemented with privately leveraged funds using Energy Savings Performance Contracts (ESPC) & Utility Energy Service Contracts (UESC)**
- **ECIP goal to invest $10-15M over each of next 10 years**
  - **FY03 program at $9.7M**
- **ESPC/UESC program goals to obtain private sector investment of up to $1B over next 8 years**
  - **$269M awarded to date through ESPC, $179M pending**
  - **$91M awarded to date through UESC, $7M pending**